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A New Species and a New Subspecies of *Peromyscus* from Oaxaca, Mexico

BY GEORGE G. GOODWIN¹

During the years 1959 and 1962, Thomas MacDougall visited some localities in Oaxaca not previously worked by mammal collectors. At two field stations, one in the north-central part of the state and the other in southwestern Oaxaca, MacDougall obtained two series of *Peromyscus* that represent a new species in the *Peromyscus lepturus* group and a new subspecies of *Peromyscus mexicanus* that extends the known range of the species farther to the southwest.

In the following descriptions, all measurements are in millimeters. Capitalized color terms are from Ridgway (1912). All the material examined is in the American Museum of Natural History. The photographs of skulls were made by Mr. Robert E. Logan, Manager of the Photography and Slide Division of the American Museum of Natural History.

Thanks are due to Dr. Charles O. Handley, Jr., of the United States National Museum of the Smithsonian Institution for his kindness in comparing these specimens with series in Washington and for the benefit of his much-valued opinions.

¹ Curator Emeritus, Department of Mammalogy, the American Museum of Natural History.

***Peromyscus ixtlani*, new species**

Figures 1A, 2A

TYPE: A.M.N.H. No. 182099, skin and skull of an adult male from Cerro Machín, 5 kilometers northeast of Macuiltianguis, District of Ixtlán, Oaxaca, Mexico, at an altitude of 9000 feet; collector, Thomas MacDougall; original number 2108; May 3, 1959; skin in good condition; skull complete.

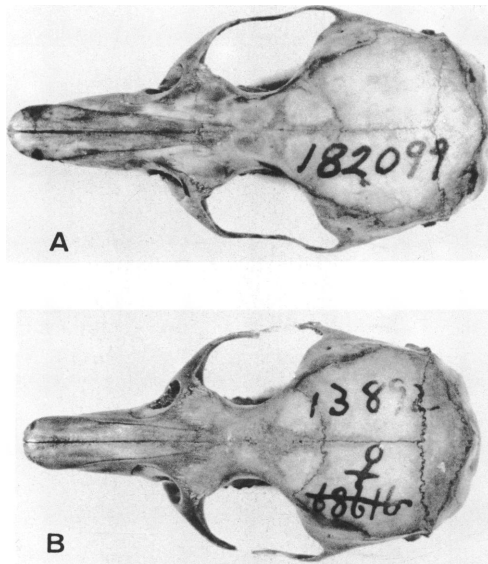


FIG. 1. Dorsal view of cranium. A. *P. ixtlani*, adult male, A.M.N.H. No. 182099, type. B. *P. lepturus*, female adult, A.M.N.H. No. 13892, topotype. Both $\times 2$.

In addition to the type, there are eight topotypes (skins and skulls), all in good condition.

DIAGNOSIS: *Peromyscus ixtlani* is more closely related to *P. lepturus* Merriam from Zempoaltepec (8200 feet), Oaxaca, than to any other known form of *Peromyscus*. Compared with *P. lepturus*, *P. ixtlani* is larger throughout, has a more distinctly bicolored and relatively longer tail, and lacks the well-defined dusky patch that usually extends well out onto the hind foot in *P. lepturus*. In cranial details, the skull of *P. ixtlani* resembles that of *P. lepturus* in general form and lack of supraorbital beading; the teeth, mesopterygoid and pterygoid fossae, and auditory bullae are also similar in *P. ixtlani* and *P. lepturus*. *Peromyscus ixtlani*, however, has

a decidedly larger skull, a relatively longer rostrum, narrower braincase, relatively longer palatal bridge, and incisive foramina that do not extend so far back.

DESCRIPTION OF TYPE: Dorsal pelage Cinnamon-Buff mixed with brownish black, dark hairs predominant in middorsal region; sides of body and shoulders Cinnamon-Buff (topotypes in worn pelage are nearly clear Ochraceous-Tawny on lower sides of body and on cheeks); ears thinly clothed with soft blackish brown hair and finely margined with

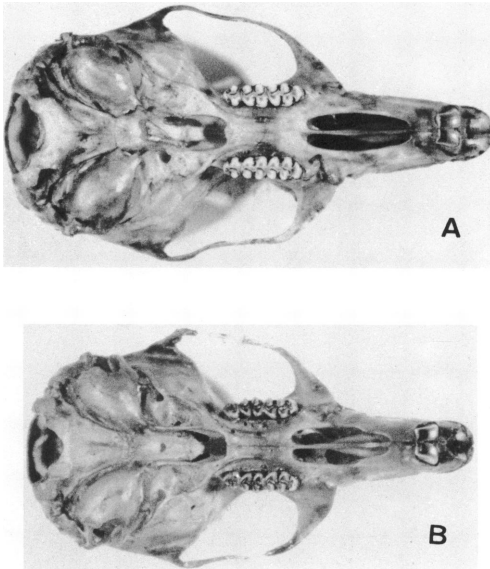


FIG. 2. Ventral view of cranium. A. *P. ixtlani*, adult male, A.M.N.H. No. 182099, type. B. *P. lepturus*, adult female, A.M.N.H. No. 13892, topotype. Both $\times 2$.

white; a broad area from sides of nose through base of whiskers to and around eye brownish black; under parts creamy white, modified to bluish gray by effect of slaty basal color of hair; forearm sooty to carpal joint; forefeet white; hind limbs to and including tarsal joint dusky; hind feet white; tail evenly bicolored, blackish brown above, white below. Skull large, rostrum long; nasals long and narrow; frontals small, constricted in orbital region and not beaded; incisive foramina long but not quite reaching plane across anterior border of first molars; zygomata strongly convergent anteriorly; molariform teeth large; maxillary tooth rows parallel-sided.

TABLE 1
MEASUREMENTS (IN MILLIMETERS) OF *Peromyscus ittlani*
AND OF *Peromyscus lepturus* FROM OAXACA

A.M.N.H. No.	Locality	Sex and Age	Total Length	Tail	Hind Foot	Skull, Greatest Length	Condylabasal Length	Basilar Length	Zygomatic Breadth	Interorbital Breadth	Nasal Length	Bony Palate	Palatine Slits	Post-palatatal Length	Maxillary Tooth Row
<i>Peromyscus ittlani</i>															
182098	Cerro Machín	♂ ad	247	131	29	31.0	28.0	24.2	15.0	4.6	12.4	5.5	6.0	10.8	5.0
182099 ^a	Cerro Machín	♂ ad	217	126	29	31.6	28.6	25.0	15.8	4.8	12.4	5.4	6.0	11.3	5.2
182100	Cerro Machín	♂ ad	242	129	29	31.5	28.5	25.0	15.4	4.9	11.5	5.4	6.1	11.2	5.0
182101	Cerro Machín	♀ old	266	143	28	31.0	28.4	25.0	15.6	4.8	12.0	5.4	5.4	11.3	5.0
182102	Cerro Machín	♂ ad	242	122	28	31.3	28.3	24.3	15.0	4.6	12.4	5.4	5.5	11.1	5.0
182103	Cerro Machín	♂ old	260	141	29	31.0	28.4	24.2	15.3	4.5	12.6	5.4	5.2	11.4	5.1
182104	Cerro Machín	♀ imm	215	107	29	29.6	26.1	23.0	13.9	4.5	11.4	5.7	5.1	10.3	5.1
182133	Cerro Machín	ad	—	—	—	29.7	26.9	23.0	14.7	4.5	11.8	5.1	5.2	10.3	5.0
182143	Cerro Machín	ad	—	—	—	31.8	28.9	25.2	16.0	4.5	12.9	5.5	5.6	11.3	5.1
<i>Peromyscus lepturus</i>															
13892	Zempoaltepec	♀ ad	238	119	27	29.3	26.8	22.8	15.1	4.6	11.5	4.3	5.7	10.2	4.8

^a Type.

MEASUREMENTS OF TYPE: (Measurements of the type of *P. lepturus* in parentheses). Total length, 247 (238); length of tail, 126 (114); hind foot, 29 (28). Skull: Greatest length, 31.6 (30.6); condylobasal length 28.6; basilar length, 25.0 (23.6); zygomatic breadth, 15.8 (15.7); inter-orbital breadth, 4.8 (4.4); interparietal breadth, 11.5 (11.0); length of nasals, 12.4 (11.8); shelf of bony palate, 5.4 (4.4); length of incisive foramina, 6.0 (6.7); diastema, 8.3 (7.4); post-palatal length, 11.3 (10.4); maxillary tooth row, 5.2 (4.9).

Additional measurements of *P. ixtlani* and *P. lepturus* are given in table 1.

REMARKS: While *Peromyscus ixtlani* bears a strong resemblance to *P. lepturus*, its larger size and cranial and external differences from *lepturus* are sufficient to warrant recognition of *P. ixtlani* as specifically distinct from *P. lepturus*.

***Peromyscus mexicanus putlaensis*, new subspecies**

Figures 3A, 4A

TYPE: A.M.N.H. No. 189248, skin and skull of an adult male from San Vicente, District of Putla, Oaxaca, Mexico, at an altitude of 4000 feet; collector, Thomas MacDougall; original number 2312; January 8, 1962; skin in fair condition; skull complete.

In addition to the type there are six topotypes (skins and skulls), all in fairly good condition.

DIAGNOSIS: About the size of typical *Peromyscus mexicanus* Saussure but closely resembling *P. m. totontepecus* Merriam in texture of pelage and coloration. General shape of skull and breadth of molars about as in the nominate race but braincase disproportionately larger and fuller and more rounded; rostrum shallower and narrower; incisive foramina more parallel-sided and extending farther back; maxillary tooth rows parallel-sided, usually convergent posteriorly in other forms of *mexicanus*.

DESCRIPTION OF TYPE: Pelage comparatively long and soft; general color of upper parts Bister, the hairs Cinnamon-Buff heavily mixed with black; sides of body Cinnamon, mixed with black grading to a narrow margin of clear Cinnamon on lower sides; under parts Pale Pinkish Buff; forefeet and hind feet white; dusky markings on tarsal joint not accentuated, tail blackish brown above, irregularly blotched on under side with yellowish white. Skull relatively small and broad, supraorbital beading scarcely indicated; rostrum long and narrow; incisive foramina large and reaching posteriorly to a plane across front of anterior molars; mesopterygoid fossa broad; auditory bullae comparatively large.

MEASUREMENTS OF TYPE: Total length, 238; length of tail, 127; hind

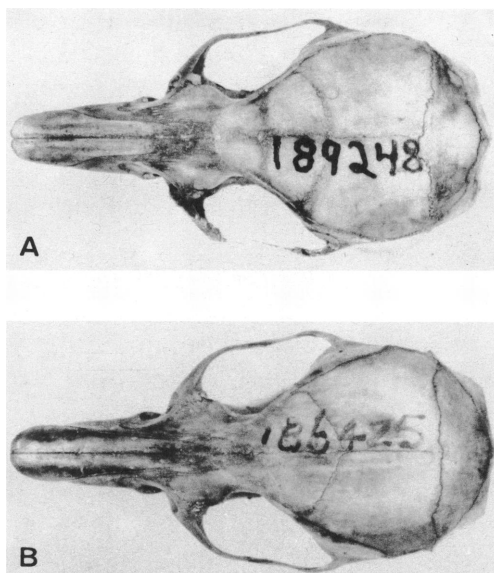


FIG. 3. Dorsal view of cranium. A. *P. m. putlaensis*, adult male, A.M.N.H. No. 189248, type. B. *P. m. mexicanus*, adult male, A.M.N.H. No. 186425. Both $\times 2$.

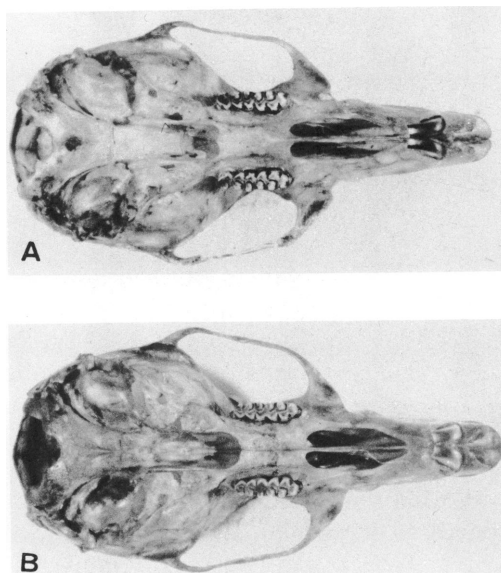


FIG. 4. Ventral view of cranium. A. *P. m. putlaensis*, adult male, A.M.N.H. No. 189248, type. B. *P. m. mexicanus*, adult male, A.M.N.H. No. 186425. Both $\times 2$.

TABLE 2
MEASUREMENTS (IN MILLIMETERS) OF *Peromyscus mexicanus putlaensis*, *Peromyscus mexicanus totontepecus*, and
Peromyscus mexicanus mexicanus FROM OAXACA

A.M.N.H. No.	Locality	Sex and Age	Total Length	Tail	Hind Foot	Skull, Greatest Length	Condylobasal Length	Basilar Length	Braincase Breadth	Zygomatic Breadth	Interorbital Breadth	Nasal Length	Bony Palate	Palatine Slits	Maxillary Tooth Row
<i>P. m. putlaensis</i>															
189245	S. Vicente	♀ subad	197	103	24	29.0	25.8	22.0	13.3	14.4	4.8	11.2	4.4	5.7	4.5
189246	S. Vicente	♀ ad	222	123	26	31.0	27.5	23.5	13.7	15.2	5.2	12.0	4.9	5.8	4.7
189247	S. Vicente	♀ juv.	224	111	26	28.9	—	—	13.6	14.5	5.0	11.3	5.3	6.0	4.5
189248 ^a	S. Vicente	♂ ad	238	127	27	31.6	28.4	23.5	13.8	15.5	5.0	12.0	4.65	6.2	4.6
189249	S. Vicente	♂ ad	243	130	26.5	31.9	28.3	23.7	13.0	—	5.0	12.9	4.6	6.2	4.6
189250	S. Vicente	♀ ad	233	124	25	30.7	—	—	13.5	15.2	5.0	12.0	5.1	5.6	4.5
189251	S. Vicente	♀ ad	257	125	26	31.4	28.2	23.6	13.7	15.2	5.0	12.0	4.9	5.7	4.5
189252	S. Vicente	♂ old	247	130	26	32.8	29.0	24.7	14.3	15.1	5.2	13.2	5.2	5.5	4.8
<i>P. m. totontepecus</i>															
13893	Totontepec	♀ ad	244	124	29	33.1	28.9	25.3	13.5	16.2	5.2	14.0	5.5	5.7	5.1
167439	Ixcuintepec	♂ ad	244	122	28	33.4	30.0	25.6	14.5	16.6	5.2	15.0	5.0	5.8	4.8
<i>P. m. mexicanus</i>															
146051	Cerro San Pedro	♀ ad	242	122	27	33.2	29.5	25.0	13.7	15.2	5.0	11.8	5.3	6.0	4.8
149100	Cerro San Pedro	♀ ad	221	121	27	33.4	29.8	25.5	14.5	15.5	5.2	13.0	5.0	6.1	4.7
176859	Tolosa	♀ ad	210	110	25	32.0	28.0	24.1	14.0	15.3	5.2	13.0	5.1	5.6	4.6
186425	Rio Sarabia	♂ ad	224	102	24	31.4	28.2	24.3	13.7	15.4	4.8	13.2	4.2	5.8	4.2

^a Type.

foot, 27. Skull: Greatest length, 31.6; condylobasal length, 28.4; basilar length, 23.5; zygomatic breadth, 15.5; interorbital breadth, 5.0; breadth of braincase, 13.8; length of nasals, 12.0; bony palate, 4.6; anterior palatine foramina, 6.2; maxillary tooth row, 4.6.

Additional measurements of *P. m. putlaensis* and of *P. m. totontepicus* and *P. m. mexicanus* are given in table 2.

REMARKS: The measurements and to some extent the general coloration show that *P. m. putlaensis* closely resembles the nominate race. Actual comparison with typical specimens of *mexicanus* and of *totontepicus*, the nearest geographical races of the *mexicanus* group, shows distinct cranial and external differences that warrant at least subspecific recognition of *putlaensis*.

REFERENCE

RIDGWAY, ROBERT

1912. Color standards and color nomenclature. Washington.